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A HIGH-SCHOOL BUILDING

BY

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THESIS

For the Degree of Bachelor of Science
in Architecture

COLLEGE OF ENGINEERING
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THIS IS TO CERTIFY THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

John Earl Henry

ENTITLED A High School Building

IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE DEGREE

OF Bachelor of Science in Architecture

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A HIGH SCHOOL BUILDING.

The problem investigated in this thesis is that of a thoroughly modern high school building, including a manual training department, for a city of 20000 inhabitants. It has been determined by investigation that there is about one high school pupil to every 40 inhabitants in a city. This building has therefore been designed to accom^modate easily 500 pupils and would allow for an increase of four to five thousand in the population of the city and still not be overcrowded.

The requirments which have been kept foremost in the solution are, first, ample light and ventilation for all rooms; next, that the plan should be simple, economical, and convenient; and third, that the exterior should indicate this simplicity of plan and the purpose of the building.

The building is intended to be placed on a rectangular lot 400 by 300 feet, which has a graded slope down from front to rear. There is a street on three sides of this lot, which calls for three entrances to the building. The principal, or main entrance is on the east and leads to the first floor through a logia and a closed vestibule. The two end entrances are at grade level and lead by short flights of stairs either down to the basement or up to the first floor.

The building in style is Modern English Gothic. It is three stories high above the basement and is finished in dark red, hard burned brick not sorted as to color, and trimmed with stone. Careful thought has been given to the best methods of supervision over

the pupils, and the one used seems the best solution. This consists of three large study rooms, one for each of the two first year classes, and one for the two upper classes combined. These rooms have been made large enough to seat from one third to one half of the class at a time, while the remainder of the class are in the class rooms which have been provided for different branches of work.

The class rooms are of two sizes, 22'x30' and 27'x30'. In all, the light enters on the pupil's left and the glass area is at least one fifth of the floor area. In both the class and study rooms 16 sq. ft. of floor space has been allowed for each pupil. The ceiling of the first and second stories is 14' while the third is 13' in height.

It was not deemed practical to use elevators for a building of this size, but it has been provided with four wide easy stairways, which are to be of fire proof construction. There are four large locker rooms, one for the boys and one for the girls, on the first and second floors. By this system each pupil will have a locker of his own with a combination lock. The toilet and wash rooms are ample and well ventilated. They have no entrance off the corridors, but can only be entered through the locker rooms. This completely isolates them from the rest of the building.

An important feature in the plan is the arrangement of the large gymnasium and drill hall, and the Assembly Hall. The gymnasium extends through the height of the basement and first floor to give height for a running track. It can be entered from either the basement or the first floor as well as through the outside entrance at the rear, which has been provided for the use of the

athletes who may want to go outdoors without passing through the building. Over the gymnasium and extending through the height of the second and third stories is the Assembly Hall with a seating capacity of 980 people. This is provided with a stage and dressing rooms. It is entered at the second floor level directly across the hall from the point where the two main front stairs land. The balcony is entered either by stairs from the main floor or directly from the third floor corridor.

On the first floor is placed a study room, six class rooms, board room, principal's office, near front entrance, with toilet, and a locker and toilet room for boys and girls each. On the second floor are four class rooms, a study room, lecture room, botany room with south light, teachers' room with toilet, a retiring or rest room for the girls, and a toilet and locker room each for boys and girls. The library is also on this floor with the idea of placing it as nearly central as possible both as to plan and as to stories. The physical and chemical laboratories are placed on the third floor and are given south exposures. The cooking room is also placed on the third floor to exclude the danger of the odors getting through the rest of the building. Besides these rooms on the third floor there is a study room, drawing room with north light, recitation room, two rooms for zoology, two class rooms, chemical and physics apparatus rooms, and a toilet and wash room for teachers. The museum is placed on this floor just over the library. The manual training shops with their wash and dressing rooms are all placed in the basement, along with the fan room, bicycle room, lunch room, store room, and janitor's room. Opening off the gymnasium on this floor is a toilet

room and a locker room for the use of the different athletic teams.

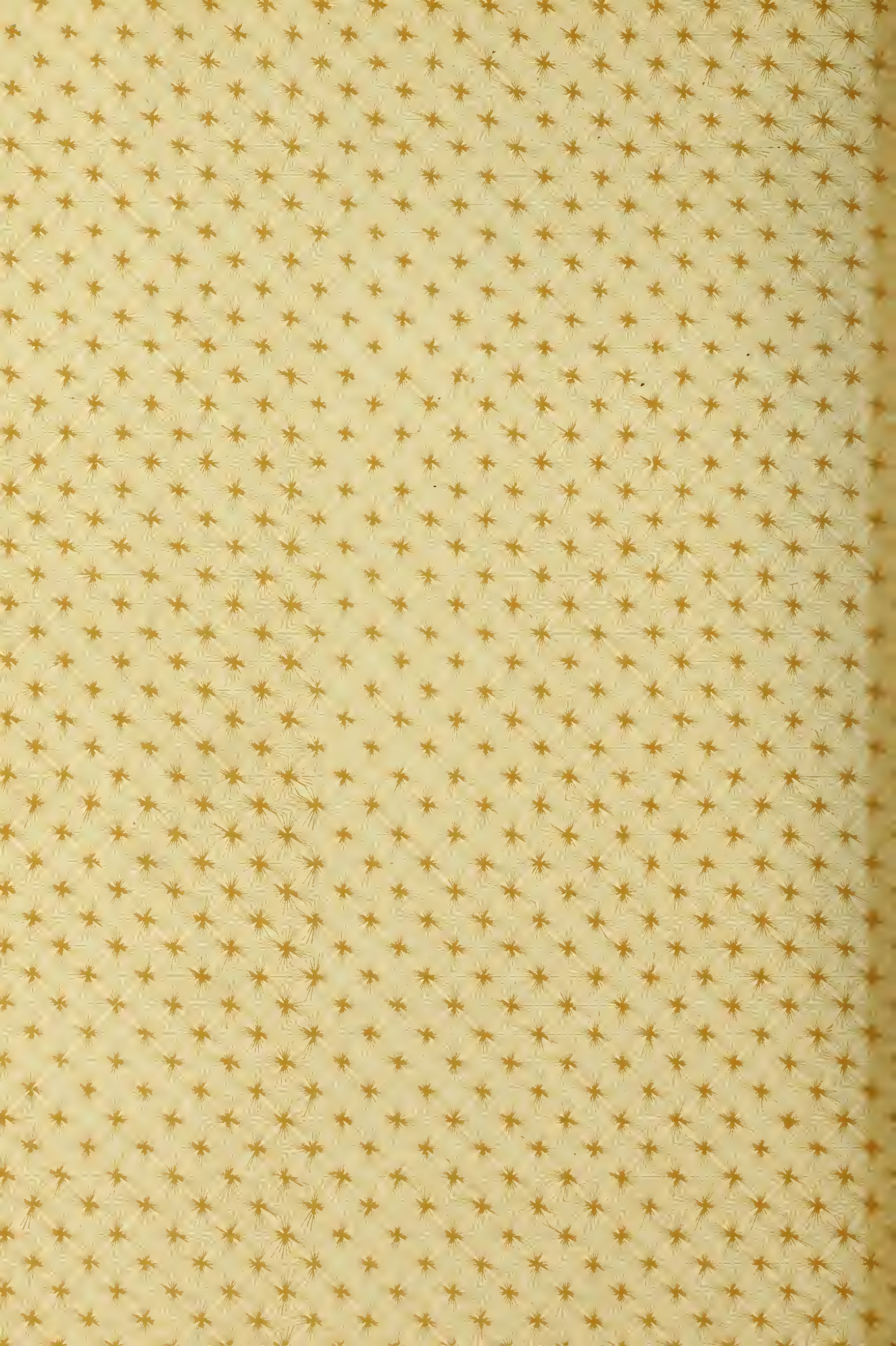
The building is to be heated by steam from a plant in the rear of the lot. Both direct and indirect radiation will be used. A positive ventilation of 1800 cu. ft. of air per hour per pupil will be kept up by a fan in the basement. The cold air ducts all lead into the attic where the impure air is allowed to pass out through three hexagonal ventilators on the ridge.

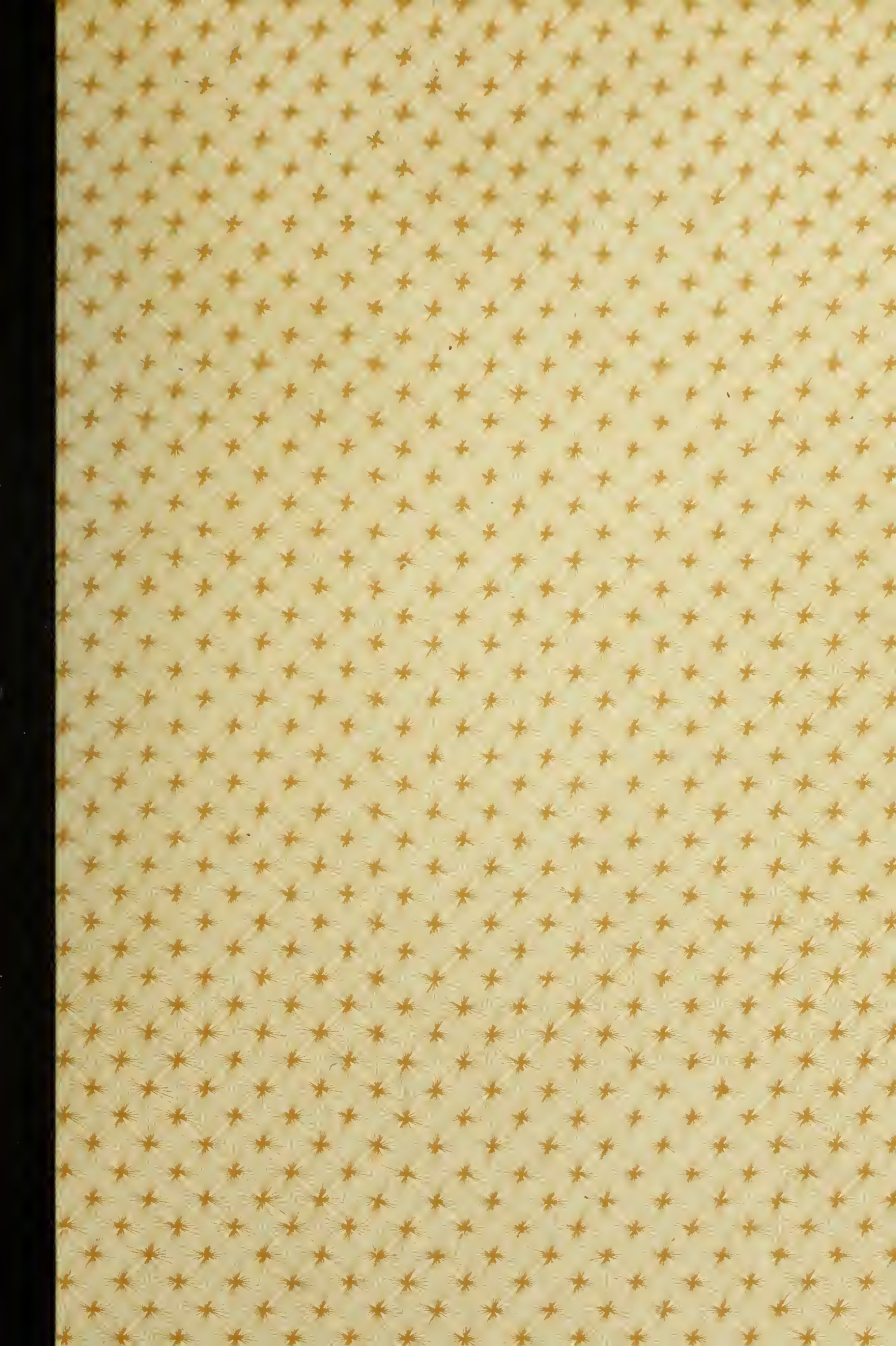
The outside walls and all supporting walls will be made of brick. The outside walls will be faced with stone up to the level of the first story window sills. The partition walls will be of hollow tile, and the floors will be of tile and I-beam construction. The roof will be of green slate with copper flashings, gutters, and ridge.

The building is estimated to cost \$240,000.

The drawings submitted are

Front Elevation	3" 16	scale
Cross Section	3" 16	"
First Floor Plan	3" 32	"
Second Floor Plan	"	"
Third Floor Plan	"	"
Basement Plan	"	"





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